WHAT IS CLAIMED IS:

1. An injection molding system comprising:

a manifold having a plurality of manifold melt channels for conveying a melt stream;

a plurality of nozzles, wherein each nozzle has a nozzle melt channel fluidly connected to a respective manifold melt channel and an actuated valve pin having a terminal end disposed within a portion of said nozzle melt channel proximate to a mold gate and slidably positionable for controlling the flow of the melt stream into a mold cavity via the mold gate; and

an actuated flow control pin having a flow control surface disposed upstream of the terminal end of said actuated valve pin that is slidably positionable for controlling the flow rate of the melt stream towards the mold gate, wherein said valve pin and said flow control pin are independently actuated.

2. The injection molding system of claim 1, wherein the actuated flow control pin is disposed within the nozzle melt channel.

3. The injection molding system of claim 1, wherein the actuated flow control pin is disposed within the manifold melt channel.

4. The injection molding system of claim 1, wherein each nozzle is in fluid communication with a separate mold cavity.

5. The injection molding system of claim 4, wherein each mold cavity is of substantially equal size.

6. The injection molding system of claim 4, wherein at least one mold cavity is of a different size.

7. The injection molding system of claim 1, wherein at least two nozzles are in fluid communication with a single mold cavity.

8. The injection molding system of claim 1, wherein said actuated valve pin and said actuated flow control pin are actuated based on injection pressure information received from at least one pressure sensor.

9. The injection molding system of claim 8, wherein said at least one pressure sensor is in communication with said nozzle melt channel.

10. The injection molding system of claim 8, wherein said at least one pressure sensor is in communication with said mold cavity.

11. The injection molding system of claim 1, wherein said flow control pin has a shaft portion and a terminal end, wherein said terminal end has a larger outer diameter than said shaft portion and includes said flow control surface.

12. The injection molding system of claim 1, wherein at least one of said actuated valve pin and said actuated flow control pin are actuated based on temperature information received from at least one temperature sensor.

13. An injection molding apparatus comprising:

a manifold having a manifold melt channel;

a nozzle having a nozzle melt channel;

a mold cavity having a mold gate to receive a molten material from said nozzle melt channel;

a first actuated valve pin to control the flow of said molten material, said first actuated valve pin having a flow control surface configured to constrict the flow of said molten material; and

a second actuated valve pin to further control the flow of said molten material from said nozzle melt channel into said mold cavity via said mold gate.

14. The injection molding apparatus of claim 13, wherein said first actuated valve pin and said second actuated valve pin are independently movable and each has a downstream end located at least partially within said nozzle melt channel.

15. The injection molding apparatus of claim 13, wherein said first actuated valve pin has a downstream end that is movable in said manifold melt channel and said second actuated valve pin has a downstream end that is movable in said nozzle melt channel.

16. The injection molding apparatus of claim 13, wherein said first actuated valve pin and said second actuated valve pin are actuated based on injection pressure information received from at least one pressure sensor.

17. The injection molding apparatus of claim 16, wherein said at least one pressure sensor is in communication with said nozzle melt channel.

18. The injection molding apparatus of claim 16, wherein said at least one pressure sensor is located in said mold cavity.

19. The injection molding apparatus of claim 13, wherein said second actuated valve pin is actuated along said nozzle melt channel.

20. The injection molding apparatus according to claim 14, wherein said first actuated valve pin and said second actuated valve pin are movable along a common axis.

21. The injection molding apparatus of claim 13, wherein said first actuated valve pin has a shaft portion and a terminal end, wherein said terminal end has a larger outer diameter than said shaft portion and includes said flow control surface.

22. The injection molding apparatus of claim 13, wherein said flow control surface of said first actuated valve pin constricts the flow of said molten material when positioned within a portion of said nozzle melt channel having a complementary shape to that of said flow control surface.

23. The injection molding apparatus of claim 15, wherein said flow control surface is on the downstream end of said first actuated valve pin to constrict the flow of said molten material when positioned within a portion of said manifold melt channel having a complementary shape to that of said flow control surface.

24. The injection molding apparatus of claim 14, wherein said second actuated valve pin is actuated laterally with respect to said first actuated valve pin.